

NOTES ON THE GENUS *STIGMODERA* (BUPRESTIDAE) AND DESCRIPTION
OF NEW SPECIES.

By C. M. DEUQUET, B.C.

(Five Text-figures.)

[Read 30th October, 1963.]

The genus *Stigmodera* is the largest of fifty odd Australian genera of the Buprestidae. It could be said to be exclusively Australian if it were not for the existence of the smaller genus *Conognatha* of South America, its close relation in the Buprestid world. Both are noted for their rare chromatic features and the harmonious and symmetrical arrangement of their bright and multicoloured species. The *Stigmodera* group is admittedly difficult to classify accurately. This is due to several reasons: (1) The multiplicity of the species and their diversity of pattern and coloration frequently attributable to sexual differences but mainly due also to geographical conditions which greatly differ in the huge Australian continent. (2) The fact that the early authors (mostly English, French or Belgian), lacking the almost indispensable experience of field observations in the Australian "Bush", made many misidentifications and frequently gave in their descriptions different names to insects of the same species showing only unessential differences, and often failed to publish figures of the specimens they were describing.

As the types of the insects described by those foreign authors almost invariably remained abroad, identification by local students of uncommon species is not easy unless coloured reproductions of those rare types are available in Australian museums, which is not always the case.

Remarkable external differences between the sexes of the same species frequently occur in *Stigmodera*. Pattern and ornamental design may happen to be so different between the ♂ and the ♀ that only field experience would disclose their exact identity. Influences which cause those variations are multiple and still imperfectly known.

A striking example of this dimorphism is the case of *Stigmodera maculiventris* first described by Sir William Macleay in 1862. The ♂ and the ♀ greatly differ in appearance: the ♀ is a three colour insect (black, yellow and red) showing two wide black fasciae and a large triangular apical mark of black and vivid-red tint, while the generally smaller ♂ has dark marking only along the suture widening often into a bright-red preapical patch. Sometimes the ♂ shows much the same markings on the elytra as the ♀, but reduced to smaller spots. Later, in 1890, Kerremans described a ♀ of the same insect which he called *Stig. praezellens*.

In June, 1916 (Roy. Soc. of S. Austr.), Carter described as new species two ♂ of the same insect again, captured by Masters at Berrima, N.S.W., naming them *Stig. notaticollis*. These two ♂ specimens are in the Macleay Museum at Sydney University.

Dr. Obenberger of Czecho-Slovakia was misled by the dissimilarity existing between the sexes of the same insect and described both separately, in 1922, as belonging to different species. He named the ♀ *Stig. nickeri* and the ♂ *Stig. strandi*, thus adding two more errors to his already impressive record.

All the above wrongly named specimens should therefore be labelled *Stigmodera maculiventris* (Macleay).

Stigmodera vigilans Kerr., *S. generosa* K., and *S. imitator* Carter.

Another example of sexual variation is that of two small *Stigmodera* (*Castiarina*) both described by Kerremans in 1898 as belonging to two different species, while they are in fact conspecific, *Stig. vigilans* being the ♀ and *S. generosa* the ♂. There were some excuses for that because Kerremans never had the benefit of field experience in

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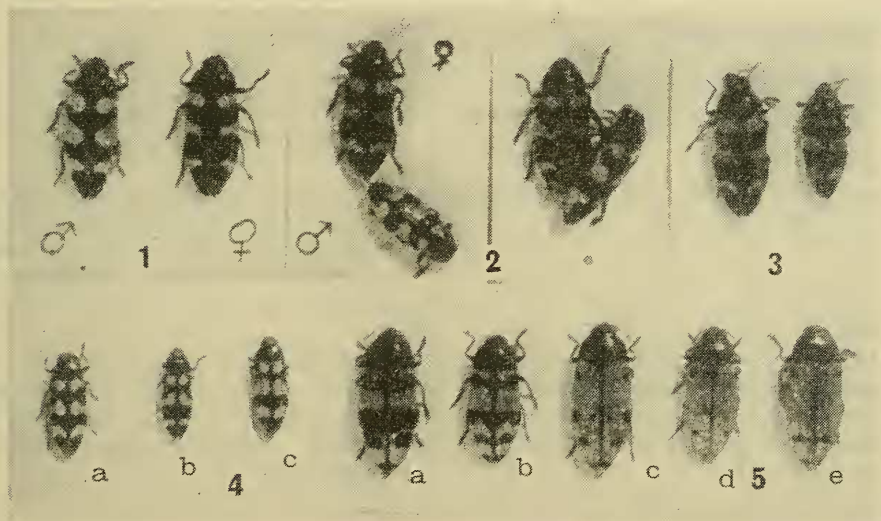
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Another example of sexual variation is that of two small *Stigmodera* (*Castiarina*) both described by Kerremans in 1898 as belonging to two different species, while they are in fact conspecific, *Stig. vigilans* being the ♀ and *S. generosa* the ♂. There were some excuses for that because Kerremans never had the benefit of field experience in

Australia, and besides, while he noticed some variation between the two, he did not suspect that it was merely due to sexual dimorphism. Here are the few differences that I can perceive between the two:

- | | |
|--|---|
| 1. <i>vigilans</i> the ♀ is slightly broader. | 1. <i>generosa</i> the ♂ is somewhat more slender and more elongated. |
| 2. The dark bands of the elytra seem wider and the yellow area of duller colour. | 2. The dark bands appear narrower and the yellow area more brilliant. |
| 3. Apical dark marking more rounded. | 3. Apical more cordiform and more attenuated. |

This particular apical feature marking sexual variation is noticeable to a lesser degree perhaps in a number of *Castiarina* such as *bicincta*, *simulata*, *undulata*, *grata*, *oblita* and others. I should add also that the slight difference of pattern between the sexes is not absolutely constant. *Stig. vigilans* having priority over *S. generosa*, these two insects should both be known as *Stig. vigilans* Kerr.



Figs. 1, 2: *Stigmodera vigilans* Kerr. 1, ♂, ♀; 2, two pairs taken *in cop.* Fig. 3: *Stigmodera imitator* Carter. Fig. 4: a, *Stigmodera cydista* Rainbow; b, *S. minuta* Blkb.; c, *S. (Castiarina) mediana* Deuq. Fig. 5: *Stigmodera rotundata* Saund.

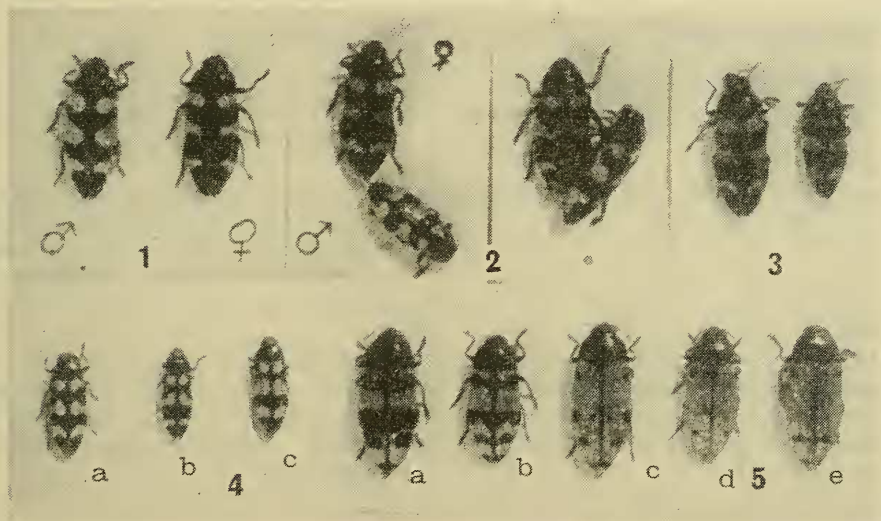
I found *vigilans* quite common in the mountainous district of the south coast of N.S.W. and frequently saw them in copulation. I captured and mounted on card four pairs thus mating. I gave one pair each to the Macleay Museum, the Australian Museum, Sydney, and the British Museum, London, and still have one pair (Fig. 2) in my collection.

Mr. Carter captured at Mts. Wilson and Irvine in the Blue Mts. of New South Wales a fair number of a small *Stigmodera* which he described (Proc. LINN. Soc. N.S.W., lv (1930): 180) and named *imitator*, nov. spec., and of which he kindly gave me a pair (Fig. 3). I examined them carefully and compared them with my *vigilans* (*generosa*), having in front of me Kerremans' description of both insects. I still remain fully convinced that all three belong to the same species and should be named *Stig. vigilans* Kerr. I include in this paper a series of photographs showing two *Stig. vigilans* Kerr., 1 ♂, 1 ♀ (Fig. 1), two pairs of *vigilans* taken *in cop.* (Fig. 2) and a pair of *imitator* Cart. visibly ♀, ♂ (Fig. 3). They illustrate the more rounded apical form of the ♀ as mentioned previously and the more attenuated shape of the ♂.

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STIGMODERA MEDIANA, n. sp. (Fig. 4, c).

The most colourful of our Castiarinae is probably *S. cydista* Rainbow (Fig. 4, a), found around Sydney, the Blue Mts., and occasionally on the south coast of New South Wales. *Stigmodera minuta* Blkb. (Fig. 4, b), a much smaller insect and of more modest appearance, closely allied to *cydista*, is taken fairly commonly in Queensland. An intermediate form between the two, clearly belonging to the same group, is taken in the New England district of New South Wales (Armidale) and in the Northern Rivers as far north as Lismore. This species shows such constant and obvious variations from both *cydista* and *minuta* that I am, I think, quite justified in claiming specific rank for this new type which I propose to name *Stigmodera* subgen. *Castiarina mediana*. Its differences in size, colour and pattern from *minuta* can be seen at a glance. From *cydista* it can be distinguished by the following differences:

Stig. cydista Rainb.*Stig. mediana* Deuq.*Form and Structure:*

Larger, broader, more rugged surface.

Narrower, more convex, smoother surface, narrowly elongate, attenuated behind.

Colour:

Brighter, more glossy.

Less brilliant.

Predominant Elytral Colour:

Glossy-green, orange-yellow area smaller.

Dark-violet showing little sheen, yellow area proportionally larger.

Pronotum:

Spade-shaped discal mark bright green, vivid coppery at side.

When viewed frontally, the pronotum appears almost entirely bright-green with the thin green discal mark hardly noticeable at first sight, especially with the ♂.

Elytra:

Elytral vittae brilliant green, basal margins wider, strongly costate and punctate, the ridges being particularly sinuous and elevated towards apex and preapical part.

Dimly violaceous basal border very narrow, ovate, smooth surfaces, sides little sinuate, finely serrated and minutely punctate-striate, intervals nearly flat.

Underside:

The whole surface brilliant green, coarsely punctate, punctures deep and close.

Coppery-green over the prosternum area, the upper margins of elytron and legs bronzy-green, the remainder of the entire abdominal area brilliant coppery-red. Seriate punctures smaller, alternate intervals subcostate.

Dim.: $8\frac{1}{4} \times 3\frac{1}{2}$ mm. $7\frac{1}{4} \times 3$ mm.*Hab.*: New England district (Armidale). Type in Australian Museum, Sydney, one paratype each to British Museum, Macleay, Paris and Brussels Museums.

STIGMODERA ROTUNDATA Saunders and STIG. EBORICA Carter, 1934.

The form, size and coloration of *Stig. rotundata* Snd. do not change much, but the number and size of the spots on the elytra may greatly vary, as will be seen in the five specimens figured (Fig. 5). In *a* the markings are unusually large. In *b* and *c* are seen examples fairly commonly met with in the countryside around Sydney. It will be noticed that in *c* and *d* the markings are gradually becoming fainter; *e* is exactly *Stig. eborica* as described by Carter. All five were captured by me at Appin,

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New South Wales, but I have in front of me several *eborica* taken at Ebor. These illustrations show once more the great variability of our Australian Stigmoderae and emphasize the caution against giving specific names to insects of that family when intermediate forms are known to be common. *Stig. eborica* would be too generously treated if given more than a varietal name. Years ago, I captured at Ebor one example of *S. eborica* differing much from the usual type by its distinctive colours: the head, pronotum and scutellum, usually bright-green with *eborica*, are coppery-gold, while the prosternum and whole underside, entirely dull green with *eborica*, are dull coppery with this unusual specimen. I wonder whether any such freakish species has ever been recorded or if it is simply a solitary hermit deviated from the original type.

Corrigendum.

Stigmodera astridae, which I described as nov. sp. in PROC. LINN. SOC. N.S.W., 15th September, 1938, should now be erased from the list of Australian Buprestidae. It had been described and named *Stig. obliqua* by Kerremans in 1902. No example of this species existed in 1938 in any Australian museum nor in any private collection in Australia, which explains but does not excuse my slip.

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